

Niagara Falls, New York
March 26, 1957

M E M O R A N D U M

To: Mr. C. M. Offenhauer (2)

From: E. A. Tomes and M. Stern

Subject: Description of Radiological Safety Precautions which
Were Taken During Demolition of Building 162 - The Area Plant

Copies: P. W. McDaniel W. Crafts
 G. W. Steidle R. M. Fowler
 W. M. Hettler J. L. Lamont
 A. C. Drake W. G. Morrison
 B. E. Field R. A. Gustison
 D. Swan R. A. Skimin

This memorandum describes the radiological surveys and procedures which were used during the demolition of Building 162. It is recommended that this information be placed in the permanent files of the Laboratories in compliance with New York State and Federal Regulations.

Individual area surveys arranged in chronological order describing the details of the various observations are attached. In order to provide a complete description of all activities, copies of letters and memoranda dealing with the interests of the Atomic Energy Commission and the New York State Department of Labor are also included.

In general, the hazard associated with demolition was considered primarily one of dust ingestion and inhalation. To avoid toxic conditions, the entire building was washed down thoroughly with a high pressure fire hose. An effort was made to continuously wet down specific areas during procedures which were expected to create dusting conditions. The weather assisted in this direction, providing numerous rainy periods. Men working in areas which were contaminated wore respirator masks and protective clothing. A check of the mask filters showed no measurable contamination.

The highly contaminated exhaust fans and their supports, which were heavily coated with green salt, were covered with a thick coating of paint to minimize dusting. They were then lifted out of the top of the building with

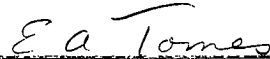
UCCNHT0001930

March 26, 1957

a crane through a hole in the roof. Mr. B. E. Field indicated he would arrange to have these fans sent to the Model City radioactive dump.

All combustible material was burned in the Electro Metallurgical dump. A check of the ashes showed no significant activity. Concrete and brick were placed in one specific location at the Electro Metallurgical dump.

It is concluded that the entire supervised demolition procedure was conducted in an entirely safe manner.



E. A. Tomes

M. Stern

MS:dcw

Attachments

Date: 4/8/57

AREA SURVEY FOR RADIOACTIVE CONTAMINATION

Room No. Area Plant

Instruments Used:

Berkley Survey Meter
Model 1615B with thin end window counter D-34

Measurements and Comments:

Measurements were made of floors and walls in areas where work with uranium was conducted previously, using the Berkley survey meter. No indication of activity was found except at junction of floor and north wall of clean out room, which gave a reading of (more than) > 2 mr/hr.

Wipes of 1 sq.ft. were made on surfaces which were suspected to be contaminated. Three areas were found which gave an indication of being contaminated. These were:

- (1) Ceiling rafters over burnout room
- (2) Center rafter over north end of furnaces
- (3) Rafter at south end of burnout room

The wipes from these areas all gave readings of ~ 2 mr/hr. using the Berkley Survey Meter.

The wipes checked with the Model 1615B with thin end window counter held as close as possible to the source gave the following readings:

- (1) 500 c/m
- (2) 500 c/m
- (3) 200 c/m

It is evident from this survey that the rafters and upper portions of the area plant should be considered contaminated and be treated as a possible dust hazard during demolition. All possible steps should be taken to minimize dust conditions during demolition, and surveys should be conducted during operations. Scrap material should be surveyed and assorted for either release or disposal as contaminated material.

M. Stern
E. A. Tomes

Survey by: E. A. Tomes and M. Stern

UCCNHT0001932

Date: 2/11/57

AREA SURVEY FOR RADIOACTIVE CONTAMINATION

Room No. Area Plant

Instruments Used: Berkley Survey Meter
Nuclear-Chic. Monitor 1615B with thin end window Geiger counter D-34

Measurements and Comments:

Surveyed several areas throughout Area Plant as listed below:

<u>Berkley</u>	<u>Monitor 1615B</u>
Under loading dock - less than .5 mr/hr.	Bkgd. count
Under office - ~2 mr/hr.	400 c/m ~0.5 g. sample
Fan over jolter - ~.5 mr/hr.	150 c/m ~0.5 g. sample
Material from duct to fan over jolter - .5 mr/hr.	Bkgd. count ~0.5 g. sample
H ₂ O valve northeast wall lunchroom area - ~.5 mr/hr.	
Exhaust fan for green salt room > 20 mr/hr. (offscale) <u>hazard</u>	> 50,000 c/m

Deck which holds exhaust fan for green salt room is also contaminated.

Survey by: D. A. Ponce

UCCNHT0001933

Excerpt from Memorandum by R. A. Skimin & H. C. Drake dated 2/23/57

-3-

February 13, 1957

7. ~~The deck which holds the exhaust fan - (Area II)* is also definitely contaminated."~~

Personnel working in the Area Plant would not be greatly affected due to external radiation with this radioactive material. The hazards are involved with the men breathing in the radioactive dust, or getting it internally some other way, such as through open cuts. All the contaminated equipment, including certain blowers, should be decontaminated if possible, and removed from the area before the demolition of the building occurs. After this has been completed, and the H2L and Plant equipment have been removed, certain areas should be vacuumed, and the building thoroughly washed down with a fire hose, then rechecked for activity. All men working in the area should wear coveralls, gloves, dust respirators, hats and are to be given all possible protection. They should keep the radioactivity dust washed from their skin. Any man having open cuts should not be allowed to work in the area, and the men should not smoke in the area for fear of getting some of the dust on their lips and in their mouths. Before the men eat, they should wash their hands and their faces. They should not eat their lunches or store any food in the area. They should not drink any liquids in the area. As each piece of equipment or section of wall or floor is removed, it should be washed down to prevent dusting and checked by Mr. E. A. Tomes and Mr. R. A. Skimin for contamination. No man should be allowed to take home any scrap until it has been checked for possible radioactivity. The contaminated material should be kept separate from that not contaminated, so that it may be buried or sent to a separate dump set up for this type of storage.

* Refer to attached drawing


R. A. Skimin

UCCNHT0001934

Date: _____

AREA SURVEY FOR RADIOACTIVE CONTAMINATION

Room No. Area Plant

Instruments Used: Berkley Survey Meter and Nuclear-Chicago Model 1615B
with thin end window counter Model D-34

Measurements and Comments:

- 2/18/57 Fluorescent light fixture over green salt area 0.07 mr/hr. Berkley
- 2/20/57 Tar paper roofing sample taken ~2" from base of stack from green salt
exhaust fan gave a reading of 0.5 mr/hr on Berkley and a count of 9000 c/n on
Monitor 1615B
- 2/22/57 Filters from masks of following men checked with Nuclear-Chicago Model 1615B
- R. Gumert)
 F. Daniels) no filter gave a significant count above background
 T. Daminski)
 G. Aiello)
- 2/25/57 Surveyed electrical generator room. No measurable contamination could be
detected.
Surveyed electrical control room. No measurable contamination except top of
huss boxes which gave a dose rate of ~0.5 mr/hr. Surveyed roof around green
salt exhaust fan. Berkley reading of > 20 mr/hr, over entire area, under first
layer of tar paper roofing.
Surveyed fan housing and motor on deck over south end of furnace area. Motor
and fan housing contaminated. Berkley reading of (<)20 mr/hr.
- 3/3/57 All hot equipment removed from building. Placed at special location and
labeled "radioactive," for disposal.
Building walls and roof all down except North wall.

E A TOMES

Survey by: _____

UCCNHT0001935

Date: 2/26/57

AREA SURVEY FOR RADIOACTIVE CONTAMINATION

Room No.

Instruments Used: Nuclear-Chicago Model 1615B with thin end window (1.4 mg/cm.²)
D-34

Measurements and Comments:

Checked filters from dust masks of following men:

F. Dix (2)
S. Jacobs (2)
T. Domanski (2)
F. Daniels (2)
J. Smith (3)

All filters had no count higher than background (30 cpm)

Survey by: E. Tones

UCCNHT0001936

Niagara Falls, New York
March 1, 1957

M E M O R A N D U M

To: Mr. A. C. Drake

From: W. G. Morrison

Subject: Demolition of Area Plant (Building 162)

Copies: O. H. Davol C. M. Offenhauer
 G. W. Steidle J. L. Lamont
 B. E. Field M. Stern ✓
 D. Swan R. A. Skimin
 W. Crafts

With regard to our recent telephone conversation on this subject, I am enclosing two copies each of two letters concerning the satisfaction of the A.E.C. with the Laboratories' decontaminating procedures in 1953. These copies were requested by Mr. Candee (in the Buffalo office of the New York State Department of Labor) during a discussion with Mr. Offenhauer. Mr. Candee also suggested that all contaminated, combustible material be burned, the ashes monitored, and samples of the ashes retained. Mr. Field plans to contact the A.E.C. representative at Model City for permission to bury or otherwise dispose of the contaminated ashes and the contaminated roof fans. We will continue to supply the information obtained from these various contacts so that you may take such action as you deem necessary.



W. G. Morrison

WGM:dcw

Enclosure

UCCNHT0001937

Mr. M. Stern

March 4, 1957

Mr. C.F. Candee
Industrial Hygiene Division
New York State Department of Labor
State Office Building
Buffalo, New York

Subj.: Demolition of Area Plant, Building No. 162 - Niagara Falls, N Y.

Dear Mr. Candee:

In a recent conversation with Mr. C.M. Offenhauer you requested copies of letters dated December 2 and December 7, 1953 which indicate the approval by the Atomic Energy Commission of the procedures for decontaminating by our Metals Research Laboratories of Government "A" Building which is being removed from the plant site at this time. We are burning all combustible, contaminated material and will have the ashes monitored. If it is necessary to bury these ashes, Mr. B.E. Field will contact the A.E.C. representative at Model City for permission to bury or otherwise dispose of the contaminated ashes. The contaminated roof fans will also be disposed of after Mr. Field consults with the A.E.C. representative.

If we can be of any further help in this matter, please feel free to request any required information.

Very truly yours,



General Construction Superintendent

ACDrake/mwp

Enc.

cc BEField:DSwan:WCrafts:CMOffenhauer:
JLLamont:MStern:RASimin:GWSteidle

UCCNHT0001938

December 7, 1953

Manager of Operations,
U.S. Atomic Energy Commission,
P.O. Box 30, Ansonia Station,
New York 23, New York.

Attention of Mr. H. B. Fry

Subject: Sales Agreement Contract No. AT(30-1)-S-23

Dear Sirs:

We wish to acknowledge receipt of and thank you for your letter of December 2nd, advising that the action we have taken to decontaminate the property mentioned in the subject agreement is satisfactory to the Commission. We believe this closes the matter.

Yours very truly,

O. F. Holmgren
Vice President

CFH:MC

UCCNHT0001939

UNITED STATES
ATOMIC ENERGY COMMISSION
NEW YORK OPERATIONS OFFICE

ADDRESS REPLY TO
MANAGER OF OPERATIONS
U S ATOMIC ENERGY COMMISSION
P O BOX 30 ANSONIA STATION
NEW YORK 23 NEW YORK

AND REFER TO

P:TPC

December 2, 1956

Electro Metallurgical Company
A Division of Union Carbide & Carbon Corp.
30 East 42 Street
New York 17, New York

Attention: Mr. Oscar F. Holmgren, Vice President

Subject: SALES AGREEMENT CONTRACT NO. AT(30-1)-S-23

Gentlemen:

Subject contract provides Carbide will, to the satisfaction of the Commission, take such action as may be necessary to decontaminate the property specified in "Schedule A" of the contract in order that the degree of contamination shall not exceed certain tolerances.

I am pleased to advise that the action taken by you in compliance with paragraph 3 of this contract is satisfactory to the Commission.

Very truly yours,

H. B. Fry
H. B. Fry, Manager
New York Operations Office

UCCNHT0001940

13 % NaOH
25 % "

16 g/l NaHS
100 g/l
200 g/l